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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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ERIC OLIVER
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L STREET N W
WASHINGTON DC 20037-1526

EXAMINER

NGUYEN, H

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/656,763

Applicant(s)

WU ET AL.

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-30 is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment received on 10/09/01 has been reviewed and considered with the following results:

As to the objections to the drawings, applicant's revision of the drawings and clarification have overcome the objections, as such, the objections to the drawings have been withdrawn.

As to the rejections to the claims, under 35 U.S.C. 112, 2nd paragraph, applicant's clarification and amendments have overcome the rejections, as such, the rejections to the claims have been withdrawn.

As to the prior art rejections, Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite because the recited limitation of "a plurality of output buffers respectively outputting a plurality of substantially uniformly time spaced channel signals based

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on respective ones of the plurality of time interval control units” is misdescriptive. There is no spaced channel signals ($\phi_1, \phi_i - \phi_m$ in instant Fig. 1) outputted by the buffers (14a-15n) are based on respective ones of the plurality of time interval control units ($V_{ctrl1}, V_{ctrlj} - V_{ctrlm}$) as recited in claim 2, but rather than the spaced channel signals are just simply buffered by the buffers from the input signals into the inputs of the buffers. Applicant should reword the limitation of claim 2 in order to recite the claim more accurately. Appropriate correction is required

Claims 3-8 are rejected due to their dependency on claim 2.

In claim 9, the limitation “a delayed output signal”, on line 5, lacks clear antecedent basis. It is unclear if this delayed output signal is the same as the “delayed output signal” recited on line 3 (or a different “delayed output signal”).

Claims 10-15 are rejected due to their dependency on claim 9.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claim 1 is rejected, as per the previous office action, under 35 U.S.C. 102(e) as being anticipated by Baba et al. (US 6,137,336; previously cited).

With regard to claim 1, Baba et al. discloses in Figs.3-7 a signaling device and a method of use thereof, comprising a signal generator generating a plurality of output signals ($\Phi_1 - \Phi_N$) at

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a plurality of respective time intervals; and a plurality of time interval control units (10-2) regulating the respective time intervals of the plurality of output signals, wherein the plurality of time interval control units individually control the respective time intervals between the plurality of output signals so as to produce substantially uniform time spacing between each of the plurality of output signals.

Claim Rejections - 35 USC § 103

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baba et al.

With regard to claims 2, the above-discussed the signaling device of Baba et al. meets all of the claimed limitations except for a set of output buffers (26a-26d in instant Fig.4). However, this would have been obvious to one of ordinary skill in the art who knows that it is common in the art output buffers for buffering the output signals. Therefore, it would have been obvious to one of ordinary skill in the art to implement the output buffers with the prior art (Fig.3-7 of Baba et al.) in order to eliminate unnecessary loading from the subsequent circuits on the signaling device.

With regard to claim 3, the signal generator further comprises a first plurality of delay cells (201-1 to 201-N) respectively generating the plurality of output signals.

Allowable Subject Matter

1. Claims 4-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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2. Claims 9-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

3. Claims 16-30 are allowed.

The prior art of record does not disclose or suggest a signaling device (as shown in Figs. 4 and 6) and a method of use thereof, as recited in claim 4; and specifically the limitation directed to the plurality of time interval control units are a second plurality of delay cells (24a-24d, 25a-25d) used to delay respective ones of the plurality of output signals based on a plurality of individual control signals (Vctrl1-Vctrl8) respectively received by the second plurality of delay cells.

The prior art of record does not disclose or suggest a signaling device (as shown in Fig. 3), as recited in claim 9, comprising a first set of delay cells arranged in series (10), wherein each of the first set of delay cells produces a delayed output signal; and specifically the limitation directed to a second set of delay cells (14a-15d) respectively coupled to ones of the first set of delay cells; wherein each of the second set of delay cells receives a unique control signal (Vctrl1-Vctrl8) controlling the timing of the channel output signal ($\Phi 1$ - $\Phi 8$) output by each of the second set of delay cells.

The prior art of record does not disclose or suggest a signaling device (as shown in Figs. 4 and 6) and a method of use thereof, as recited in claims 16, 22, and 25, comprising: a phase detector (44); a charge pump (42); a loop filter (40); first plurality of delay cells (22a-22d); plurality of output buffers (26a-26d, 27a-27d); a calibration loop (60a-66a); and specifically the limitation directed to a second plurality of delay cells (24a-24d, 25a-25d), each coupled between

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one of said first plurality of delay cells and a paired one of said plurality of output buffers, wherein each of said plurality of delay cells receives an individual delay control signal to control delay of the cell in providing an output signal to its associated output buffer.


Conclusion


8. In view of the new grounds of rejection, this action is non-final.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 703-306-9178. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HLN 
November 1, 2001


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800